REMARKS

This paper is responsive to the Final Office Action dated June 30, 2005. Applicant has not amended any of the claims. Claims 1-42 remain pending.

In the Final Office Action, the Examiner rejected claims 1-2, 4-6, 14, 15, 17-18, 21, 25-26, 30-32, and 36-39 under 35 U.S.C. 103(a) as being unpatentable over Lipton (USPN 5,835,098) in view of Levy (USPN 2001/0054150); rejected claims 42 under 35 U.S.C. 103(a) as being unpatentable over Swen (USPN 5,806,081) in view of Levy; rejected claims 3, 10-12, 16, 22-24, 33-34, and 40-41 under 35 U.S.C. 103(a) as being unpatentable over Lipton in view of Levy and in further view of Swen; rejected claims 7, 8, 19 and 20 under 35 U.S.C. 103(a) as being unpatentable over Lipton in view of Levy and in further view of Haikin (USPN 6,603,879); rejected claims 9, 13, 29 and 35 under 35 U.S.C. 103(a) as being unpatentable over Lipton in view of Levy and in further view of Yen et al. (USPN 2001/0047476); rejected claims 27 and 28 under 35 U.S.C. 103(a) as being unpatentable over Lipton in view of Levy and in further view of "Data Embedding in Text for a Copier System," Epson Palo Alto Laboratory to Bhattacharjya and Ancin (hereafter Bhattacharjya).

The rejections are erroneous and must be withdrawn. None of the applied references discloses or suggests the inventions defined by Applicant's claims, and none of the applied references provides any teaching that would have suggested the desirability of modification to arrive at the claimed invention.

In accordance with all of Applicant's pending claims, steganography is used specifically for embedding, into an image, information describing the color properties of an image. In this manner, in accordance with the invention, there is no need to provide a separate file, header, or data structure for the information. See page 6, lines 27-29. Instead, steganography allows the information to be interspersed with the raster image data of the image. See page 6, lines 29 to 31.

The Examiner has identified nothing that suggests the use of steganography to embed information describing the color properties of an image within the raster image data of the image. Instead, the Examiner has identified a hodge-podge of disparate references that would have neither individually nor collectively led a person of ordinary skill in the art to use steganography to embed

information describing the color properties of an image within the raster image data of the image.

The numerous references cited by the Examiner can be generally categorized into two groups. First, some of the references relate to color management techniques, such as color correction, color profiling or color matching technologies. Such color management prior art describes conventional color management techniques, e.g., in which color profiles or other color data are embedded into documents to allow for color management of the documents. None of these conventional color management techniques described in the applied references, however, discloses or suggests the use of steganography to embed information describing the color properties of an image within the raster image data of an image. Indeed, none of the color management prior art cited by the Examiner discusses data hiding or steganography whatsoever.

The other type of references cited by the Examiner relate generally to steganography techniques, but are not in any way related to color management. These references cited by the Examiner describe data hiding techniques in which steganography is used to embed information into images. However, the information contemplated by such conventional steganography techniques is typically identification information associated with the images (e.g., for authentication or to combat counterfeiting) or tracking information to help track the images. Indeed, Applicant has already explained extensively on the record that conventionally, steganography is used to embed digital watermarks within images for authentication purposes, or to embed copyright ownership information within images to combat counterfeiting. Nothing in any of the applied references that relate to steganography would have led a person of ordinary skill in the art to embed information describing the color properties of an image within the raster image data of the image.

All of Applicant's claims require the use of steganography techniques to embed color information describing the color properties of an image or device that rendered the image directly in the raster image data of the image. This is advantageous for color rendering of the image, as the embedded color information is hidden within the raster image data for later retrieval and use in rendering on a

different device. The prior art fails to disclose or suggest the use of steganography to embed color information directly in the raster image data of an image, or the advantages that steganography can provide in a color management setting.

The Lipton reference describes the use of identifiers to specify color profiles for an image. However, neither the identifiers nor the color profiles of Lipton are embedded in an image using steganography, as required by Applicant's claims.

The Swen reference describes the embedding of a device profile in a document, but also lacks any suggestion of the use of steganography to embed such a profile into raster image data of an image file.

The Haikin and Yen references also appear to lack any teaching with respect to steganography, and clearly do not disclose or suggest the use of steganography to embed color information in the raster image data of an image.

The Levy and Bhattacharjya references describe steganography techniques, but lack any suggestion of the application of such techniques to embed color information in the raster image data of an image. Specifically, Levy describes the use of "digital watermarking" to insert a customer identification for tracking purposes, or to link an image to a customer's web site. See paragraph [0011], which was cited by the Examiner. Levy does not use steganography to embed color information in the raster image data of an image. Moreover, Levy does not suggest that the "link" to the customer's web site includes a color profile for an image, e.g., as recited in dependent claims 7 and 8.

Bhattacharjya describes a steganography technique that is specifically applicable to text documents. However, the steganography technique of Bhattacharjya is described in the context of conventional watermarking. Thus, nothing in Bhattacharjya suggests that the information being encoded by the techniques is color information describing color properties of an image or a device that rendered the image. On the contrary, the document being encoded by Bhattacharjya is a text document and, moreover, the information embedded therein is not color information describing color properties of an image or a device that rendered the image, as required by Applicant's claims.

In short, the applied references, both individually and collectively, fail to disclose or suggest the use of steganography to embed color information directly in the raster image data of an image, or the advantages that steganography can provide in this setting. Some of the applied references appear to describe the embedding of color profiles or indicators into a document, but lack any suggestion of the use of steganography to embed such information. Other applied references appear to discuss steganography, but describe data hiding techniques in a conventional manner in which the information embedded by the steganography is a conventional watermark and not color information describing color properties of an image or a device that rendered the image, as required by Applicant's claims.

It is well established that the Examiner bears the burden of establishing a prima facie case of obviousness.[1] In doing so, the Examiner must determine whether the prior art provides a "teaching or suggestion to one of ordinary skill in the art to make the changes that would produce" the claimed invention.[2] A prima facie case of obviousness is established only when this burden is met.

The Court of Appeals for the Federal Circuit recently addressed the evidentiary standard required to uphold an obviousness rejection.[3] Specifically, the Federal Circuit stated: "[the] factual question of motivation is material to patentability, and (can) not be resolved on subjective belief and unknown authority."[4] This finding must be based upon substantial evidence, and not subjective musings or conjecture by the Examiner.[5] Deficiencies in the evidentiary record cannot be cured by general conclusions such as "general knowledge" or "common sense."[6] Accordingly, the Examiner cannot rely on unsupported, conclusory statements to close holes in the evidentiary record.[7] Unless the Examiner can establish an evidentiary record based on concrete prior art references that establish that it would have been obvious to a person with

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[1] *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).
[2] *In re Chu*, 36 USPQ2d 1089, 1094 (Fed. Cir. 1995).
[3] *In re Lee*, 61 USPQ2d 1430, (CAFC 2002).
[4] *Id.* at 1434.
[5] *Id.*
[6] *Id.*
[7] *Id.*

ordinary skill in the art to incorporate the features of Applicant's claims, the claims should be allowed.

The conclusion of obviousness advanced by the Examiner is improper insofar as the Examiner has not identified motivation in the prior art that would have led a person of ordinary skill in the art to use steganography to embed any type of color information directly in the raster image data of an image. Indeed, the Examiner cited no prior art teaching as the source for the motivation that the Examiner identified. Moreover, the motivation that the Examiner did identify is insufficient to support a prima facie case of obviousness. In particular, as outlined in further detail below, the Examiner failed to support the obviousness conclusion with any evidence that one of ordinary skill in the art would have considered it desirable to use steganography to embed color information in the raster image data of an image.

In the Office Action, the Examiner stated that "Lipton and Levy are combinable because they are in the same field of endeavor, embedding information in image data." This statement is flawed both factually and legally. In particular, factually, Lipton and Levy are not in the same field of endeavor. Lipton is in a field of color management, and Levy is in the different field of steganography and digital watermarking. Moreover, legally, even if Lipton and Levy were in the same field of endeavor, this alone would not have motivated a person of ordinary skill in the art to use steganography to embed color information in the raster image data of an image.

The Examiner also stated that "[the] suggestion/motivation for [combining Lipton and Levy] would have been to use steganography to [embed] information at the correct stage, which is during raster image processing, to avoid problems from occurring." Citing paragraph [0011] of Levy. The Examiner identified this same "problem" to be addressed by Levy in the rejection of claim 42, which was based on a combination of Swen and Lipton, rather than Levy and Lipton advanced for all other independent claims.

Unfortunately, the "problem" identified by the Examiner as being addressed in Levy says nothing to support the Examiner's conclusion of obviousness. Neither Lipton nor Levy indicates that any problems can be avoided

or even addressed by embedding color information in the raster image data of an image.

Instead, the "problems" addressed by Levy in paragraph [0011] relate only to digital watermarking in the general sense. For example, in paragraph [0011], Levy describes problems that can arise when any watermark is added to vector graphics of an image. Clearly, the problems identified in paragraph [0011] of Levy do not have anything to do with color information, and would not have led a person of ordinary skill in the art to have modified the teaching of Lipton the embed color information in the raster image data of an image using steganography. General problems with digital watermarking provide no insight to the desire to embed specific types of information using steganography, much less the desire to embed color information in the raster image data of an image.

In fact, a person of ordinary skill in the art would have consciously and purposely avoided using the steganography techniques of Levy to embed color information in the raster image data of an image of Lipton (or Swen). To be sure, Lipton describes specific techniques for managing color profiles in a document, which would be eliminated if steganography techniques of Levy were used instead. In Lipton, unique identifiers are placed in a document "at each location where the color profile is used." If color profiles were instead incorporated into the raster image data using the steganography techniques of Levy, this would frustrate the goals of Lipton, as this would not be consistent with placement of identifiers at each location where the color profile is used, which is specifically taught by Lipton to be useful.

Furthermore, if the steganography techniques of Levy to embed color information in the raster image data of an image of Lipton (or Swen), the teaching of Levy would have been compromised as well. Levy uses steganography specifically for tracking purposes or to link an image to a customer's web site. If steganography were instead used to embed color information in the raster image data of an image, rather than the tracking information suggested by Levy, it is unclear how these tracking goals of Levy would be realized. For these additional reasons, a person of ordinary skill in the art would have avoided using the

steganography techniques of Levy to embed color information in the raster image data of an image of Lipton (or Swen).

In short, the applied references, both individually and collectively, fail to disclose or suggest the use of steganography to embed color information directly in the raster image data of an image, or the advantages that steganography can provide in this setting. Again, some of the applied references appear to describe the embedding of color profiles or indicators into a document, but lack any suggestion of steganography. Other applied references appear to discuss steganography for text documents, but describe such techniques in a conventional manner in which the information embedded by the steganography is information conventionally used for watermarking, and not color information describing color properties of an image or a device that rendered the image, as required by Applicant's claims. The Examiner has failed to identify any motivation that would have led a person of ordinary skill in the art to combine the reference in a manner identified by the Examiner.

Nothing in any of the applied references discloses or suggests the use of steganography to embed any color information directly in the raster image data of an image. Moreover, nothing in any of the applied references provides any suggestions that would have led a person of ordinary skill in the art to modify the teaching of references such as Lipton or Swen to implement steganography techniques of references such as Levy to embed color information in the raster image data of an image.

At this time, Applicant also wishes to briefly address dependent claims 7 and 8. These claims are dependent upon claim 1, which requires obtaining information describing color properties of a device that generates an image, and embedding the information within raster image data associated with the image using steganography such that the embedded information does not substantially affect the visual appearance of the image to a user. Claim 7 further requires that the information describing color properties includes a path indicating a network location of a color profile for the image. Claim 8 requires that the path be an internet uniform resource locator.

In the rejection of claims 7 and 8, the Examiner relied on the flawed analysis of claim 1, addressed above. In addition, however, the Examiner recognized that Lipton and Levy do not suggest using steganography to embed a path indicating a network location of a color profile for the image within the raster image data associated with the image. However, the Examiner cited Haikin as disclosing this feature.

The passage of Haikin cited by the Examiner (col. 7, lines 5-9), unfortunately, has absolutely no relevance to the features of Applicant's claims 7 and 8. This entire passage of Haikin states:

> Turning to FIG. 3, one embodiment of the present invention for performing color management begins by obtaining input color image data 301 from an input device such as digital camera 60, scanner 70 or an image file retrieved from the internet via network interface bus 80.

Absolutely nothing in this passage suggests using steganography to embed a path indicating a network location of a color profile for the image within the raster image data associated with the image. This passage in Haikin does not even relate to retrieval of information describing color properties of an image. Instead, Haikin refers to obtaining the image file itself, either by capturing an image from a camera or scanner, or by retrieving an archived image.

Applicant submits that the rejection of claims 7-8 demonstrate the Examiner's improper technique used throughout the Office Action. In particular, the Examiner has cited disparate, unrelated teachings to reconstruct Applicant's claimed invention from the prior art using Applicant's claims as a blueprint. For dependent claims 7-8 (and all pending independent claims), the Examiner has failed to identify any motivation within the prior art that would have led a person of ordinary skill in the art to modify the prior art teaching in a manner suggested by the Examiner. Indeed, the teaching of the applied prior art itself would have led a person of ordinary skill in the art to avoid the modifications proposed by the Examiner.

Only upon access to Applicant's disclosure would a person of ordinary skill in the art have been motivated to use steganography to embed information describing the color properties of an image (e.g., such as a color profile or a network path to the color profile) within the raster image data of the image. Of

course, such use of hindsight is prohibited to the Examiner in an obviousness analysis.

Applicant reserves further comment at this time on the remaining dependent claims, but does not acquiesce to any of the Examiner's rejections or characterizations of the prior art. Accordingly, Applicant reserves the right to present additional arguments with respect to the features of the pending claims.

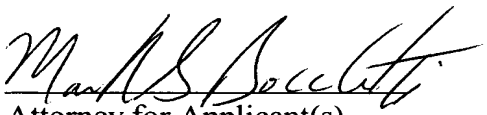
In view of the foregoing comments, Applicant respectfully requests reconsideration by the Examiner, and allowance of all pending claims

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. The Examiner is invited to telephone the below-signed attorney to discuss this application.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayments in connection with this communication to Eastman Kodak Company Deposit Account No. 05-0225. ***A duplicate copy of this communication is enclosed.***

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.